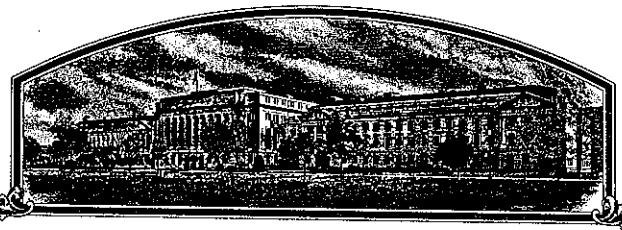

No. 8500007

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Virginia Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Saluda'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 29th *day of* April *in the year of our Lord one thousand nine hundred and* eighty-eight.

Attest:

Kenneth A. Evans

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng

Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0065

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Virginia Agricultural Experiment Station	VA. 79-54-254	Saluda

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
Virginia Polytechnic Institute and State University Blacksburg, VA 24061	(703) 961-6483	PVPO NUMBER 8500007

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING
Triticum aestivum	Gramineae	DATE 10-3-84 TIME 2:30 ☐ A.M. ☒ P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED
Wheat, Common	October 1, 1983	AMOUNT FOR FILING $ 1,800 DATE 10/3/84 AMOUNT FOR CERTIFICATE $ 200.00 DATE March 17, 1988

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*

State Agricultural Experiment Station

11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

T. M. Starling
Agronomy Dept.
Virginia Tech
Blacksburg, VA 24061

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. ☒ Exhibit B, Novelty Statement

c. ☒ Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. ☒ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☒ Yes *(If "Yes," answer items 16 and 17 below)* ☐ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Yes ☒ No	☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ Yes *(If "Yes," give date)*

☒ No

19. HAS THE VARIETY BEEN OFFERED FOR SALE OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

Sold to certified seed growers in the U. S. by Va. Crop Improvement Assoc. in fall of 1983 and will be offered for sale to U. S. farmers in 1984. Not sold outside U. S.

☒ Yes *(If "Yes," give names of countries and dates)*

☐ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT		DATE
E. N. Boyd	E. N. Boyd, Assoc. Director Va. Agric. Experiment Station	8/28/84
SIGNATURE OF APPLICANT		DATE

1

FORM LMGS-470 (8-83) (Edition of 9-81 is obsolete)

8500007

Wheat
'Saluda', P. I. 480474

14A. Exhibit A:

Pedigree: Va. 71-54-147 (C. I. 17449) x Coker 68-15

Va. 71-54-147 is a selection from the cross Taylor 2 ^{1}x Norin 10 x Brevor 3x Thorne ^{6}x 199-4. The 199-4 parent was the F_1 from a cross between Entry 21 of the 1954 USDA Uniform Winter Wheat Mildew Nursery, having the parentage Asosan x Supresa - Redhart x Atlas - Chancellor, crossed with P55-47.1-5, which was Chinese Spring with the leaf rust resistance gene transferred from Aegilops umbellulata. The backcrosses to Thorne were for the purpose of incorporating the mildew resistance from Entry 21, the mildew resistance throught to have been derived from Asosan, and the leaf rust resistance from Aegilops umbellulata into Thorne.

Saluda was head-selected in the F_3 generation from a bulk population and was grown as a head-row in the F_4. This head-row was harvested and was grown as an observation rod-row plot in 1979 and was plot 254 in test 54, and was temporarily identified as 79-54-254. Recognizing that this plot was derived from an F_3 selection, additional head selections were made, and the plot was harvested and entered in our preliminary yield test in 1979-80. It also was planted in a small increase block. The increase plot appeared uniform and was harvested to provide seed for entering in our state-wide tests for the first time in 1980-81. A larger increase block, approximately 100 ft. x 66 ft. was also planted in 1980, rogued thoroughly for aberrant types, and was harvested in 1981. The first lot of Foundation seed was increased from the seed harvested from this block and still contained a small percentage of aberrant types, estimated to be no more than 4%.

Prior to harvest of this increase block, approximately 310 heads were selected for use in establishing an improved lot of Breeder seed. These heads were threshed individually, and grown as head-rows in 1981-82. Out of the 310 head-rows, 279 were saved and grown as duplicate sets of rod-rows in 1982-83. A sample of seed from each head-row was also used to test the progeny from each head-row for seedling reaction to a field mixture of powdery mildew, leaf rust, and stem rust, and to a culture of powdery mildew to which Asosan is resistant. All were moderately susceptible to the field mixture of mildew, and susceptible to the stem rust. Four contained plants susceptible to the non-Asosan attacking culture of mildew (none was homozygous susceptible). One appeared susceptible to leaf rust and one appeared resistant, with all others having a mesothetic reaction (mixture of resistant and susceptible reactions on the same leaf).

The winter of 1982-83 was extremely mild and spring-like conditions prevailed quite early. A few rows appeared to have a low vernalization requirement, producing upright growth at an early date, and others appeared mixed for response. Following heading, it was noted that a few rows contained an occasional tall head. In all, 38 of the 279 rod-rows were discarded for one reason or another and the other 241 were harvested and this became the breeder seed for Saluda.

WHEAT PVPC APPLICATION NO. 8500007, 'SALUDA'

ADDENDUM TO EXHIBIT A:

FOLLOWING THE REMOVAL OF VARIANT HEAD-ROWS IN 1982 AND OF VARIANT ROD-ROWS IN 1983, THE SEED DERIVED FROM THE BULKING OF THE 241 REMAINING ROD-ROWS HAS REMAINED UNIFORM (WITHIN THE LIMITS OF BIOLOGICAL EXPECTATION) AND GENETICALLY STABLE FOR THE SUBSEQUENT FOUR GENERATIONS. TALLER HEADS ARE OCCASIONALLY FOUND IN SEED PRODUCTION FIELDS BUT THEIR NUMBERS ARE WITHIN ACCEPTABLE LIMITS FOR SEED CERTIFICATION.

8500007

Saluda Wheat

14B. Exhibit B, Novelty Statement

Saluda most closely resembles Coker 68-15. However, Saluda is more resistant to powdery mildew and more susceptible to stem rust then Coker 68-15. Based on seed produced at the Eastern Virginia Research Station in 1984, seeds of Coker 68-15 were ovate to oval, while seed of Saluda were consistently ovate. The brush collar was more conspicious on Coker 68-15 than on Saluda: The endosperm of Saluda was very white in color, suggesting softeness, while the endosperm of Coker 68-15 was more vitreous, suggesting semihardness. Seed of Coker 68-15 were slightly longer than those of Saluda, averaging 6.5 mm and ranging from 6 to 7 mm. Seed of Saluda averaged 6.2 mm, and ranged from 5.5 to 7 mm.

WHEAT PVPC APPLICATION NO. 8500007, 'SALUDA'

ADDENDUM TO EXHIBIT B, NOVELTY STATEMENT:

1. THE FOLLOWING IS A COMPARISON OF SALUDA AND COKER 68-15 WHEN TESTED IN THE SEEDLING STAGE IN THE GREENHOUSE (WINTER OF 1984-85) FOR REACTION TO THREE CULTURES OF POWDERY MILDEW AND A FIELD MIXTURE OF STEM RUST INOCULUM.

	CULTURE OF POWDERY MILDEW(1)			
CULTIVAR	ASOSAN RESISTANT	ASOSAN SUSCEPTIBLE	CHUL AND ASOSAN SUSCEPTIBLE	STEM RUST
COKER 68-15	SUSCEPTIBLE	SUSCEPTIBLE	SUSCEPTIBLE	INTERMEDIATE
SALUDA	RESISTANT	SUSCEPTIBLE	SUSCEPTIBLE	SUSCEPTIBLE

(1)THESE ARE THREE CULTURES OF POWDERY MILDEW, THE FIRST OF WHICH DOES NOT ATTACK ASOSAN, ONE OF THE PARENTS OF SALUDA, THE SECOND WHICH ATTACKS ASOSAN BUT NOT CHUL, AND THE THIRD WHICH ATTACKS BOTH ASOSAN AND CHUL..

2. THE ATTACHED TABLE OF DATA FROM WHEAT CULTIVAR TESTS CONDUCTED AT FIVE LOCATIONS IN VIRGINIA IN 1984-85 SHOWS THAT SALUDA HAD AN AVERAGE INFECTION OF 33% POWDERY MILDEW, WHILE COKER 68-15 HAD AN AVERAGE INFECTION OF 51%. THIS IS A DIFFERENCE OF 18%, WITH A DIFFERENCE OF 11% REQUIRED TO BE SIGNIFICANT AT THE .05 PROBABILITY LEVEL.

Table 6. Summary of performance of wheat varieties evaluated in Virginia in 1984-85. (1)

Entry No.	Variety or selection	Yield (Bu./A.) (4)	Bushel weight (Lbs.) (4)	Date headed (Mar. 31+) (4)	Height (In.) (4)	Lodging (%) (3)	Powdery mildew (%) (5)	Leaf rust (%) (1)	Winter survival (%) (1)	Late freeze damage (%) (1)	Soil-borne virus (%) (1)
1	McNair 1003	55.9	54.4-	30	32	17	22	32+	100	45	30
2	Coker 747	52.4	58.0	29	29-	14	30	24	100	48	5
3	Massey	59.6	56.5	28	33	20	2-	57+	100	40	0
4	Tyler	55.7	56.0	32+	35+	8	24	48+	100	42	0
5	Wheeler	47.1-	57.4	31	33	12	36+	37+	100	60	47
6	Scotty	52.2	57.2	30	31	11	23	7	100	52	7
7	Magnum	51.8	56.1	27-	30	14	15	1-	100	35	28
8	Hunter	50.9	59.7+	27-	27-	0	10	1-	78-	63	7
9	Feland	55.8	59.3+	30	34+	8	27	1-	92-	63	7
10	Coker 916	59.1	56.6	27-	30	18	8-	0-	98	60	9
11	Pioneer B. 2550	63.2	58.0	32+	32	19	14	1-	100	33	0
12	Saluda	57.4	59.2+	30	30	4	33+	2-	100	32	70
13	Florida 302	64.3+	56.7	31	33	15	5-	1-	83-	45	67
14	SR 82	53.8	56.4	32+	34+	6	28	53+	100	45	0
15	Compton	50.9	58.7	31	29-	3	16	0-	100	27	1
16	Coker 983	56.8	59.2+	30	27-	0	5-	0-	83-	63	15
17	Blazer	51.0	57.2	28	33	12	12	4-	100	40	1
18	HW 3007	59.1	56.9	32+	33	18	21	13	100	40	10
19	HW 3015	61.7	56.8	29	35	14	19	7	100	47	1
20	HW 3021	61.9	56.0	30	34+	9	23	27+	100	52	5
21	Coker 68-15	43.3-	59.7+	29	30	5	51+	1-	90-	78	22
22	VA 79-52-6	58.7	56.0	28	30	12	17	42+	100	40	1
23	VA 82-52-9	51.6	58.8	27-	34+	18	16	38+	97	67	0
24	VA 82-52-64	60.5	59.4+	30	30	6	30	1-	100	38	75
25	VA 82-54-330	64.4+	58.3	30	30	9	28	1-	100	35	75
26	Becker	51.6	55.8-	32+	28-	2	35+	15	100	23	1
27	Adder	55.4	54.7-	30	31	12	7-	0-	100	15	0
	Average	55.8	57.4	30	31	11.0	21	15	--	--	--
	L.s.d. (.05)	7.7	1.6	2	2	--	11	10	--	--	--

(1) The number in parentheses below column headings indicates the number of tests on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.

8500007

FORM APPROVED: OMB NO. 0581-0055

EXHIBIT C
(Wheat)

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
BELTSVILLE, MARYLAND 20785

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Virginia Agricultural Experiment Station

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061

FOR OFFICIAL USE ONLY
PVPO NUMBER 8500007

VARIETY NAME OR TEMPORARY DESIGNATION
SALUDA

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:

[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[ ][ ][ ] FIRST FLOWERING [ ][ ][ ] LAST FLOWERING

4. MATURITY (*50% Flowering*):

[0][3] NO. OF DAYS *EARLIER* THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS

[0][3] NO. OF DAYS *LATER* THAN ..... [8] 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7 = Tyler 8 = Coker 916

5. PLANT HEIGHT (*From soil level to top of head*):

[0][9][0] CM. HIGH

[ ][ ] CM. TALLER THAN ..... [ ] 7 = Tyler

[1][5] CM. SHORTER THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):

[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

8. STEM:

[2] Anthocyanin: 1 = ABSENT 2 = PRESENT (slightly)

[2] Waxy bloom: 1 = ABSENT 2 = PRESENT

[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT on margins

[1] Internodes: 1 = HOLLOW 2 = SOLID

[0][4] NO. OF NODES (*Originating from node above ground*) Occasionally 5

[ ][ ] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____

[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED generally not, occasionally

[ ] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[1][2] MM. LEAF WIDTH (*First leaf below flag leaf*)

[1][7] CM. LEAF LENGTH (*First leaf below flag leaf*):

8500007

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

2,[3] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[ ][ ] CM. LENGTH [ ][ ] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

Ranges from 7.5 to 9

[3] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

2,[4] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[1] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[ ] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[ ] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[ ] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

Slightly

[2] Brush: 1 = NOT COLLARED 2 = COLLARED

[2] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[ ] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify)

0-4% Brown

[ ][ ] MM. LENGTH [ ][ ] MM. WIDTH [3][3] GM. PER 1000 SEEDS

17. SEED CREASE:

[ ] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

Narrow

[ ] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

Mid deep

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[1] STEM RUST (Races) _____ [2] LEAF RUST (Races) In Virginia [0] STRIPE RUST (Races) _____ [0] LOOSE SMUT

[2] POWDERY MILDEW moderately resistant [0] BUNT [ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY [0] APHID (Bydv.) [0] GREEN BUG [1] CEREAL LEAF BEETLE

[1] OTHER (Specify) Hessian Fly

HESSIAN FLY RACES: [ ] GP [ ] A [1] B [ ] C [1] D [ ] E [ ] F [ ] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering		Seed size	
Leaf size		Seed shape	
Leaf color		Coleoptile elongation	
Leaf carriage		Seedling pigmentation	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. *(See attachment.)*

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

Saluda Wheat

14D. Additional Description of Saluda

Since Saluda has not been tested in comparison with any of the six cultivars indicated for wheat in Exhibit C, data on its performance in Virginia in 25 tests conducted over a period of 4 years (1981-1984) are presented in Table 1.

Compared to Tyler, Saluda has been 4.6 bushels/acre higher in yield, 2.6 lbs/bushel higher in test weight, about 3 days earlier in heading, 6 inches shorter in height, slightly higher in lodging and powdery mildew occurrence, much lower in incidence of leaf rust, and considerably more susceptible to soil-borne virus. In yield, Saluda has averaged higher than all other varieties. In bushel test weight, it most closely resembles Wheeler and Feland. In date headed, it closely resembles McNair 1003, Coker 747, Massey, Wheeler, and Feland. In height, it most closely resembles Coker 747 and Coker 916. In quantity of lodging, it resembles Coker 747 and Massey. In quantity of leaf rust, it resembles Feland and Coker 916, being perhaps somewhat more susceptible than these two cultivars. In reaction to soil-borne virus, it most closely resembled Wheeler.

Saluda was evaluated in the Uniform Eastern Soft Red Winter Wheat Nursery and the Uniform Southern Soft Red Winter Wheat Nursery in 1982, 1983, and 1984. Performance in these nurseries is summarized in the USDA nursery reports.

Table 1. Comparison of Saluda and several other cultivars grown in 25 tests in Virginia from 1981-1984[1]

	Yield (Bu/A) (25)	Bushel Weight (Lbs.) (25)	Date Headed (Mar.31+) (16)	Height (In.) (20)	Lodging (%) (14)	Powdery Mildew (%) (15)	Leaf Rust (%) (7)	Soil-borne Virus (%) (1)
Saluda	71.6	59.6	38.5	35.5	17	5	1	48
McNair 1003	60.6	55.7	38.5	37.0	9	12	13	95
Coker 747	60.0	59.0	39.2	35.5	17	23	6	75
Massey	64.5	58.3	38.7	39.5	17	3	31	0
Tyler	67.0	57.0	41.2	41.5	13	1	33	0
Wheeler	60.8	59.5	39.2	41.0	13	17	8	65
Feland	66.6	59.6	39.2	40.2	13	3	0	5
Coker 916	64.9	57.8	35.5	35.5	11	7	0	0

[1] The numbers in parentheses at the top of columns of data and beneath the units of measurement indicate the number of comparisons on which data are based. Test locations per year have ranged from five to seven.

8500007

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DEPARTMENT OF AGRONOMY

February 9, 1988

Eldon E. Taylor
USDA, AMS, Livestock and Seed Division
Plant Variety Protection Office
NAL Building, Room 500
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Dear Mr. Taylor:

Attached is a table giving milling and baking quality scores on 'Saluda' wheat (wheat application no. 8500007). These data are from reports distributed by the USDA Soft Wheat Quality Laboratory at Wooster, Ohio and are based on seed samples shipped to the laboratory by growers of the Uniform Southern Soft Red Wheat Nursery and the Uniform Eastern Soft Wheat Nursery. The sample that was milled and baked in each year was a composite of the samples shipped from the 15 to 25 locations where these nurseries were grown.

Saluda has always scored high in the milling category, but has scored somewhat low in baking score because of a somewhat high alkaline water retention capacity, a somewhat smaller cookie diameter, and a somewhat low score on cookie top grain rating. I say somewhat because on a range of overall scores from A to F, Saluda seldom scores lower than C.

Please let me know if these data are not adequate or if there are questions regarding them.

Very sincerely,

T. M. Starling

T. M. Starling
Professor

11

Milling and Baking Quality Data for 'Saluda' Wheat*

Crop Year and Nursery	Wheat Grain: Test Weight KG/HL	Protein %	Ash %	Particle Size Index %	Endosperm Separation Index %	Break Flour Yield %	Flour Yield %	Millab. Score -	Quality Score: Milling	Quality Score: Baking
1981-S	79.3	11.6	1.44	43.7	10.6	34.1	77.7	116.4	107.9	91.6
1982-S	79.8	10.4	1.61	47.2	10.5	37.7	75.7	109.7	102.5	98.9
1982-E	80.6	11.1	1.56	46.1	10.3	36.0	76.8	111.7	108.4	76.9
1983-S	80.1					33.2	75.7	106.9	99.4	94.8
1985-E	82.3					30.0	76.4	109.0	106.8	96.7
AVERAGE	80.4	11.0	1.54	45.7	10.5	34.2	76.5	110.7	105.0	91.8

	Straight-Grade Flour: Moisture %	Ash %	Protein %	Viscosity: As is	Viscosity: Adj.	Micro. AWRC %	Cookie Diameter CM	Top Grain Score
1981-S	14.0	.40	10.5	121	103	52.5	17.2	1.0
1982-S	14.2	.38	9.0	95	123	52.2	17.8	5.0
1982-E	14.2	.40	9.9	97	99	53.7	17.5	3.0
1983-S		.37	10.3			52.9	17.3	3.0
1985-E		.37	9.4			52.8	17.5	5.0
AVERAGE	14.1	.38	9.8	104	108	52.8	17.5	3.4

	Cake Patent Flour: Ash %	Protein %	pH: Initial	pH: Final	Chlorine Response pH/ML/G	Optimum Liquid Level %	Cake Volume ML	Internal Score
1981-S	.28	9.4	5.82	4.79	2.82	130	1053	85
1982-S	.28	8.4	5.82	4.79	2.36	120	1065	83
1982-E	.29	8.9	5.96	4.69	2.36	130	1017	86
1983-S	.27	9.5	5.85	4.74	2.32	130	1029	82
1985-E	.27	8.7	5.87	4.84	2.67	120	1058	81
AVERAGE	.28	9.0	5.86	4.77	2.51	126	1044	83

*Data from Soft Wheat Quality Reports, USDA Soft Wheat Quality Laboratory, OARDC, Wooster, Ohio for Southern and Eastern Soft Wheat Nurseries.